

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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JUL 31 2002

Complete if Known

Application Number 10/029,184
Filing Date December 28, 2001
First Named Inventor DANILOFF et al.
Group Art Unit 1623/1651
Examiner Name R G T O M E R

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U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | U.S. Patent Document | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY |
|--------------------|-----------------------|----------------------|----------------------|---|--|
| | | Number | Kind Code (if known) | | |
| R G | | 5,517,313 | | Colvin, Jr. | 05/14/1996 |
| | | 5,894,351 | | Colvin, Jr. | 04/13/1999 |
| | | 5,910,661 | | Colvin, Jr. | 06/08/1999 |
| | | 5,917,605 | | Colvin, Jr. | 06/29/1999 |
| | | 5,503,770 | | James et al. | 04/02/1996 |
| | | 5,763,238 | | James et al. | 06/09/1998 |
| | | 5,833,603 | | Kovacs et al. | 11/10/1998 |
| | | 5,512,246 | | Russell et al. | 04/30/1996 |
| | | 6,011,984 | | Van Antwerp et al. | 01/04/2000 |
| | | 6,002,954 | | Van Antwerp et al. | 12/14/1999 |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. | Foreign Patent Document | | | Name of Patentee of Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | T ⁶ |
|--------------------|----------|-------------------------|----------|----------------------|---|--|----------------|
| | | Office | Number | Kind Code (if known) | | | |
| | | WO | 99/46600 | A1 | Sensors for Medicine and Science, Inc. | 09/16/1999 | |
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| Sheet | 2 | of | 4 | Attorney Docket Number | 2232-162 |

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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

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|--------------------|----------|---|-----------------|
| | | APPLETON, B. et al., "Detection of Total Sugar Concentration Using Photoinduced Electron Transfer Materials: Development of Operationally Stable, Reusable Optical Errors", <i>Sensors and Actuators</i> , B 65, 2000, pp. 302-304 | |
| | | BARKER, S. et al., "The Interaction of Areneboronic Acids with Monosaccharides", <i>Carbohydrate Research</i> , 1973, Vol. 26, pp. 33-40 | |
| | | BURNETT, T. et al., "Synthesis of A Fluorescent Boronic Acid Which Reversibly Binds to Cell Walls and A Diboronic Acid Which Agglutinates Erythrocytes", <i>Biochem. and Biophys. Res. Comm.</i> , 96:1 (1980), pp. 157-162 | |
| | | DAVIS, C. et al., "Simple and Rapid Visual Sensing of Saccharides", <i>Org. Lett.</i> , 1:2 (1999), pp. 331-334 | |
| | | DEETZ, M. et al., "Heteroditopic Ruthenium (II) Bipyridyl Receptor with Adjacent Saccharide and Phosphate Binding Sites", <i>Tetrahedron Letters</i> , 1998, Vol. 39, pp.6841-44 | |
| | | EGGERT, H. et al., "A New Glucose-Selective Fluorescent Bisboronic Acid. First Report of Strong α -Furanose Complexation in Aqueous Solution at Physiological pH", <i>J. Org. Chem.</i> , 1999, Vol. 64, pp. 3846-52 | |
| | | FRIEDMAN, S. et al., "Complexation of Phenylboronic Acid with Lactic Acid. Stability Constant and Reaction Kinetics", <i>Jour. of the Amer. Chemical Soc.</i> , 1974, 96:17, pp. 5381-5384 | |
| | | ISHI-I, T., et al., "Structure Determination of a 1:2 Threitol-Boronic Acid Complex: Comments on the Structural Controversy between 5,5- and 6,6-Membered Rings", <i>Tetrahedron</i> , 1998, Vol. 54, pp. 8679-86 | |
| | | ISHI-I, T., et al., "D/L Selective Re-binding of Saccharide-Imprinted [60]Fullerene-Bisadducts Based on a Saccharide-Boronic Acid Interaction: Development of a Molecular Imprinting Technique Useful in a Homogeneous System", <i>Tetrahedron</i> , 1999, Vol. 55, pp. 3883-92 | |
| | | JAMES, T., et al., "Fluorescent Saccharide Receptors: A Sweet Solution to the Design, Assembly and Evaluation of Boronic Acid Derived PET Sensors", <i>Chem. Comm.</i> , 1996, pp. 281-88 | |
| | | JAMES, T., et al., "A Glucose-Selective Molecular Fluorescence Sensor", <i>Angew Chem. Int. Ed. Eng.</i> , 1994, Vol. 33, pp. 2207-09 | |
| | | JAMES, T., et al., "Novel Photo Induced Electron-Transfer Sensor Saccharides Based on the Interaction of Boronic Acid and Amine", <i>J. Chem. Soc., Chem. Commun.</i> , 1994, pp. 477-78 | |
| Examiner Signature | | | Date Considered |

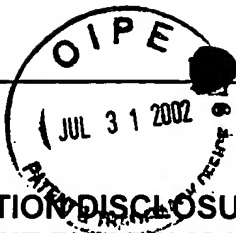
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| OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS | | | | | |
| Examiner Initials* | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published | | | T ⁶ |
| RG | | JAMES, T., et al., "Novel Saccharide-Photoinduced Electron Transfer Sensors Based on the Interaction of Boronic Acid and Amine", <i>J. Am. Chem. Soc.</i> , 1995, Vol. 117, No. 35, pp. 8982-87 | | | |
| | | JAMES, T., et al., "Saccharide Sensing with Molecular Receptors Based on Boronic Acid", <i>Angew Chem. Int. Ed. Engl.</i> , 1996, Vol. 35, pp. 1911-22 | | | |
| | | MIZUNO, T. et al., "Re-Investigation of Optical Sensing Properties of Boronic-Acid-Appended Re Complexes for Saccharides", <i>J. Chem. Soc. Perkin Trans.</i> , 2000, Vol. 1, pp. 407-13 | | | |
| | | MIZUNO, T. et al., "Sugar Sensing Using Chiral Salen-Co(II) Complexes", <i>Tetrahedron</i> , 1999, Vol. 55, pp. 9455-68 | | | |
| | | NAKASHIMA, K., et al., "Diaza-18-Crown-6-Based Saccharide Receptor Bearing Two Boronic Acids. Possible Communication Between Bound Saccharides and Metal Cations", <i>Ind. Eng. Chem. Res.</i> , 2000, Vol. 39, pp. 3479-83 | | | |
| | | NORRILD, J., et al., "Evidence for Mono- and Bidentate Boronate Complexes of Glucose in the Furanose Form. Application of J _{C-C} Coupling Constants as a Structural Probe", <i>J. Am. Chem. Soc.</i> , 1995, Vol. 117, pp. 1479-84 | | | |
| | | SANDANAYAKE, K. et al., "Two Dimensional Photoinduced Electron Transfer (PET) Fluorescence Sensor for Saccharides", <i>Chemistry Letters</i> , 1995, pp. 503-504 | | | |
| | | SHINKAI, S., "Aqueous Sugar Sensing by Boronic-Acid-Based Artificial Receptors", <i>Chemosensors of Ion and Molecule Recognition</i> , 1997, pp. 37-59 | | | |
| | | SHINMORI, H., et al., "A Novel Light-Gated Sugar Receptor, Which Shows High Glucose Selectivity", <i>J. Chem. Soc., Perkin Trans.</i> , 1998, Vol. 2, pp. 847-52 | | | |
| | | SHIOMI, Y., et al., "Specific Complexation of Glucose with a Diphenylmethane-3,3'-Dioboronic Acid Derivative: Correlation Between the Absolute Configuration of Mono- and Di-Saccharides and the Circular Dichroic Activity of the Complex", <i>J. Chem. Soc. Perkin Trans.</i> , 1993, Vol. 1, pp. 2111-17 | | | |
| | | TAKEUCHI, M., et al., "Fluorescence and CD Spectroscopic Sugar Sensing by a Cyanine-Appended Diboronic Acid Probe", <i>Tetrahedron</i> , 1996, Vol. 52, No. 4, pp. 1195-1204 | | | |
| ✓ | | TAKEUCHI, M., et al., "Molecular Design of Highly Selective and Sensitive "Sugars Tweezers" from Boronic Acid-Appended μ -Oxo-bis[porphinatoiron (III)]s, 1998, <i>Bull. Chem. Soc. Jpn.</i> , 1998, Vol. 71, pp. 1117-23 | | | |
| Examiner Signature | RGCTOMER | | | Date Considered | 8/22/03 |

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|--------------------|----------|--|----------------|
| RG | | TSUKAGOSHI, K., et al., "Specific Complexation with Mono- and Disaccharides that can be Detected by Circular Dichroism", <i>J. Org. Chem.</i> , 1991, Vol. 56, pp. 4089-91 | |
| | | UGGLA, R., et al., "Diphenylmethane 3,3'-Diboronic Acid as a Model of Molecular Sensors for Sugars. Recognition of Glucose in a Furanose or Pyranose Form?", <i>Acta Chemica Scandinavica</i> , 1999, Vol. 53, pp. 34-40 | |
| | | WISKUR, S. et al., "pK _a Values and Geometries of Secondary and Tertiary Amines Complexed to Boronic Acids - Implications for Sensor Design", <i>Org. Lett.</i> , 0:0, A-D, April 6, 2001 | |
| | | YOON, J., et al., "Fluorescent Chemosensing of Catechol and Catecholamines in Water", <i>Bioorganic & Medicinal Chemistry</i> , 1993, Vol. 1, No. 4, pp. 267-71 | |
| ✓ | | YOON, J., et al., "Fluorescent Chemosensors of Carbohydrates. A Means of Chemically Communicating the Binding of Polyols in Water Based on Chelation-Enhanced Quenching", <i>J. Am. Chem. Soc.</i> , 1992, Vol. 114, pp. 5874-75 | |
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